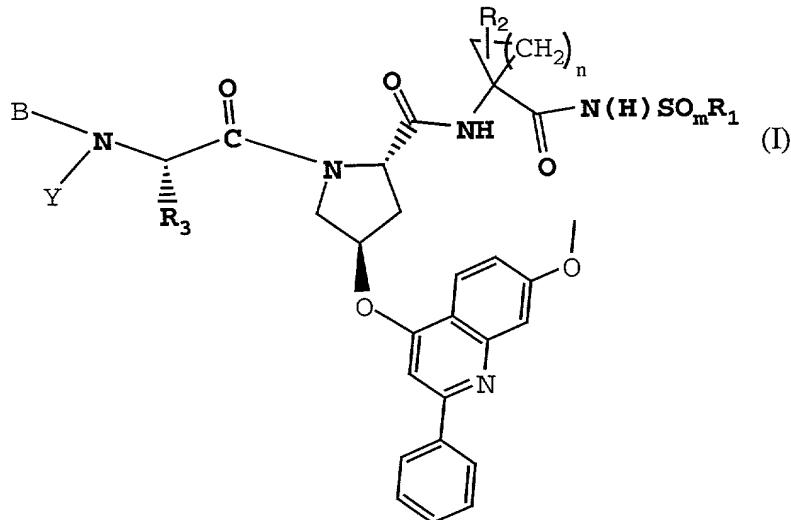


CLAIMS

What is claimed is:

5 1. A compound having the formula



wherein:

- (a) R<sub>1</sub> is C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> (alkylcycloalkyl), which are all optionally substituted from one to three times with halo, cyano, nitro, C<sub>1-6</sub> alkoxy, amido, amino or phenyl, or R<sub>1</sub> is C<sub>6</sub> or C<sub>10</sub> aryl which is optionally substituted from one to three times with halo, cyano, nitro, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, amido, amino or phenyl;
- (b) m is 1 or 2;
- (c) n is 1 or 2;
- (d) R<sub>2</sub> is C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl or C<sub>3-7</sub> cycloalkyl, each optionally substituted from one to three times with halogen, or R<sub>2</sub> is H;
- (e) R<sub>3</sub> is C<sub>1-8</sub> alkyl optionally substituted with phenyl, C<sub>3-12</sub> alkenyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> (alkylcycloalkyl), wherein the cycloalkyl or

alkylcycloalkyl are optionally substituted with hydroxy, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl; or C<sub>1-6</sub> alkoxy or R<sub>3</sub> together with the carbon atom to which it is attached forms a C<sub>3-7</sub> cycloalkyl group optionally substituted with C<sub>2-6</sub> alkenyl;

5 (f) Y is H, phenyl substituted with nitro, pyridyl substituted with nitro, or C<sub>1-6</sub> alkyl wherein said alkyl is optionally substituted with cyano, OH or C<sub>3-7</sub> cycloalkyl;

10 (g) B is H, C<sub>1-6</sub> alkyl, R<sub>4</sub>-(C=O)-, R<sub>4</sub>O(C=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=S)-, R<sub>4</sub>SO<sub>2</sub>-, or R<sub>4</sub>-N(R<sub>5</sub>)-SO<sub>2</sub>-;

15 (h) R<sub>4</sub> is (i) C<sub>1-10</sub> alkyl optionally substituted with phenyl, carboxyl, C<sub>1-6</sub> alkanoyl, 1-3 halogen, hydroxy, -OC(O)C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, amino optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; or -O-phenyl optionally substituted with halogen or C<sub>1-6</sub> alkoxy; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcyclo-alkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, halogen, nitro, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub>

alkyl; (vi) bicyclo(1.1.1)pentane; (vii)  
-C(O)OC<sub>1-6</sub> alkyl, C<sub>2-6</sub>alkenyl, C<sub>2-6</sub>alkynyl; and  
(i) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl, said C<sub>1-6</sub>alkyl optionally  
substituted with 1-3 halogens;  
5 or a pharmaceutically acceptable salt, solvate or  
prodrug thereof.

2. A compound of Claim 1 wherein m is 2.

10 3. A compound of Claim 1 wherein n is 1.

4. A compound of Claim 1 wherein R<sub>1</sub> is cyclopropyl.

5. A compound of Claim 1 wherein R<sub>1</sub> is cyclobutyl.

15 6. A compound of Claim 1 wherein R<sub>1</sub> is optionally  
substituted phenyl.

7. A compound of Claim 1 wherein R<sub>2</sub> is ethyl or  
20 vinyl.

8. A compound of Claim 1 wherein R<sub>3</sub> is C<sub>1-6</sub> alkyl.

9. A compound of Claim 1 wherein m is 2, n is 1 and  
25 R<sub>2</sub> is ethyl.

10. A compound of Claim 9 wherein R<sub>1</sub> is cyclopropyl.

11. A compound of Claim 9 wherein R<sub>1</sub> is cyclobutyl.

30 12. A compound of Claim 9 wherein R<sub>1</sub> is optionally  
substituted phenyl.

13. A compound of Claim 1 wherein m is 2, n is 1 and R<sub>2</sub> is vinyl.

14. A compound of Claim 13 wherein R<sub>1</sub> is cyclopropyl.

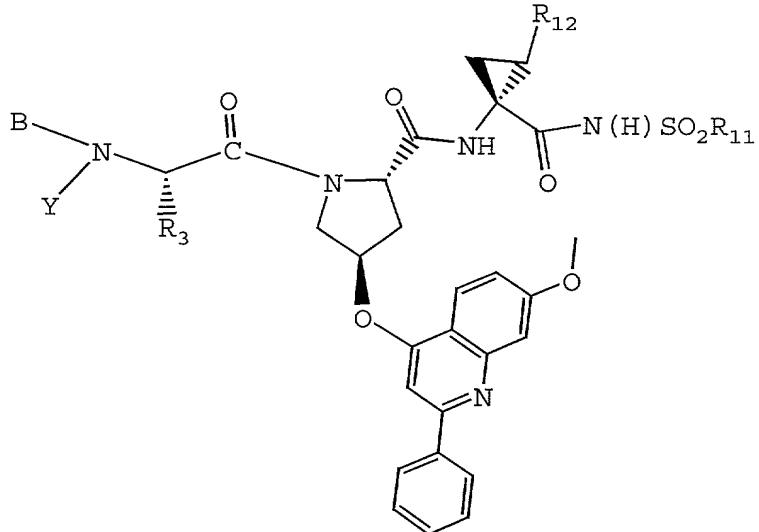
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15. A compound of Claim 13 wherein R<sub>1</sub> is cyclobutyl.

16. A compound of Claim 13 wherein R<sub>1</sub> is optionally substituted phenyl.

10

17. A compound having the formula



wherein:

(a) R<sub>11</sub> is C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, or

15 C<sub>4-10</sub> (alkylcyclo-alkyl), naphthyl, or phenyl

wherein said phenyl is optionally substituted

from one to three times with halo, cyano, nitro,

C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, amido, or phenyl;

(b) R<sub>12</sub> is C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl or H;

20 (c) R<sub>3</sub> is C<sub>1-8</sub> alkyl, C<sub>3-12</sub> alkenyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkenyl, or C<sub>1-6</sub> alkoxy;

(d) Y is H or C<sub>1-6</sub> alkyl wherein said alkyl is optionally substituted with cyano or C<sub>3-7</sub> cycloalkyl;

(e) B is H, R<sub>4</sub>-(C=O)-, R<sub>4</sub>O(C=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=S)-, R<sub>4</sub>SO<sub>2</sub>-, or R<sub>4</sub>-N(R<sub>5</sub>)-SO<sub>2</sub>-;

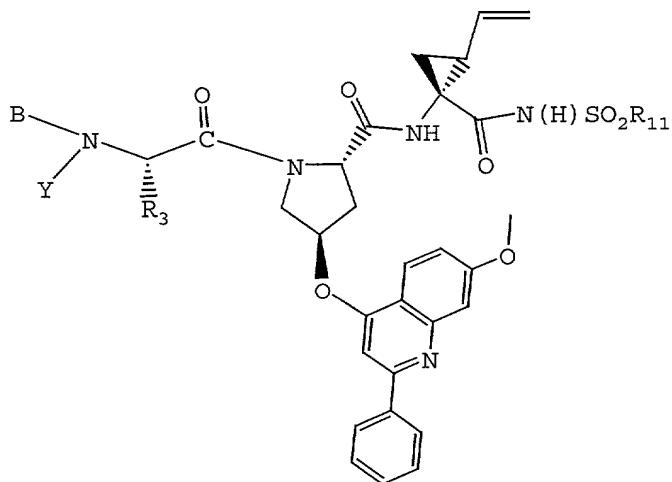
(f) R<sub>4</sub> is (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; and

(g) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl,

or a pharmaceutically acceptable salt, solvate or prodrug thereof.

18. A compound of Claim 17 wherein R<sub>11</sub> is selected from cyclopropyl, cyclobutyl or optionally substituted phenyl.

19. A compound having the formula



wherein:

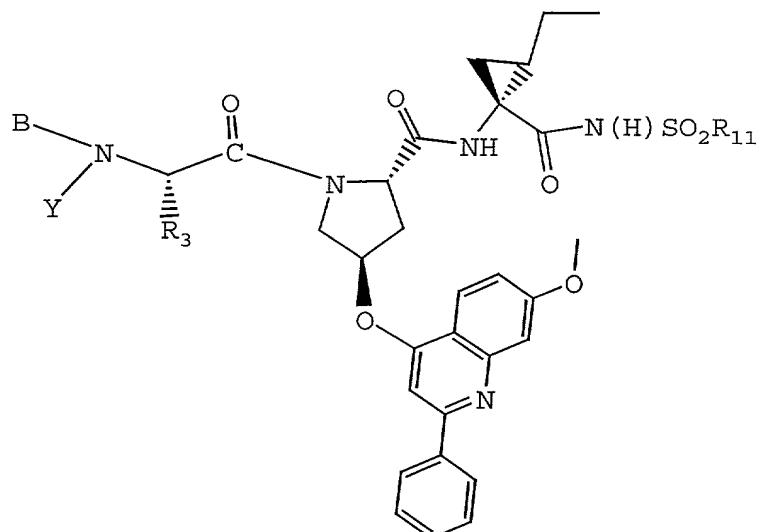
- (a)  $R_{11}$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcyclo-alkyl), naphthyl, or phenyl wherein said phenyl is optionally substituted from one to three times with halo, cyano, nitro,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, amido, or phenyl;
- 5 (b)  $R_3$  is  $C_{1-8}$  alkyl,  $C_{3-12}$  alkenyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkenyl, or  $C_{1-6}$  alkoxy;
- 10 (c)  $Y$  is H or  $C_{1-6}$  alkyl wherein said alkyl is optionally substituted with cyano or  $C_{3-7}$  cycloalkyl;
- 15 (d)  $B$  is H,  $R_4-(C=O)-$ ,  $R_4O(C=O)-$ ,  $R_4-N(R_5)-C(=O)-$ ,  $R_4-N(R_5)-C(=S)-$ ,  $R_4SO_2-$ , or  $R_4-N(R_5)-SO_2-$ ;
- (e)  $R_4$  is (i)  $C_{1-10}$  alkyl optionally substituted with carboxyl,  $C_{1-6}$  alkanoyl, hydroxy,  $C_{1-6}$  alkoxy, amino optionally mono- or di substituted with  $C_{1-6}$  alkyl, amido, or (lower alkyl) amido; (ii)  $C_{3-7}$  cycloalkyl,  $C_{3-7}$  cycloalkoxy, or  $C_{4-10}$  alkylcycloalkyl, all optionally substituted with hydroxy, carboxyl, ( $C_{1-6}$  alkoxy) carbonyl, amino optionally mono- or disubstituted with  $C_{1-6}$  alkyl, amido, or

(lower alkyl) amido; (iii) amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; or (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; and

(f) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl;  
or a pharmaceutically acceptable salt, solvate or prodrug thereof.

15 20. A compound of Claim 19 wherein  $R_{11}$  is selected  
from cyclopropyl, cyclobutyl or optionally  
substituted phenyl.

21. A compound having the formula



20

wherein:

(a)  $R_{11}$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcyclo-alkyl), naphthyl, or phenyl

wherein said phenyl is optionally substituted from one to three times with halo, cyano, nitro, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, amido, or phenyl;

(b) R<sub>3</sub> is C<sub>1-8</sub> alkyl, C<sub>3-12</sub> alkenyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkenyl, or C<sub>1-6</sub> alkoxy;

(c) Y is H or C<sub>1-6</sub> alkyl wherein said alkyl is optionally substituted with cyano or C<sub>3-7</sub> cycloalkyl;

(d) B is H, R<sub>4</sub>-(C=O)-, R<sub>4</sub>O(C=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=O)-, R<sub>4</sub>-N(R<sub>5</sub>)-C(=S)-, R<sub>4</sub>SO<sub>2</sub>-, or R<sub>4</sub>-N(R<sub>5</sub>)-SO<sub>2</sub>-;

(e) R<sub>4</sub> is (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino optionally mono-or-di substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (iii) amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-

mono- or disubstituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amido; (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or amino optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl; and

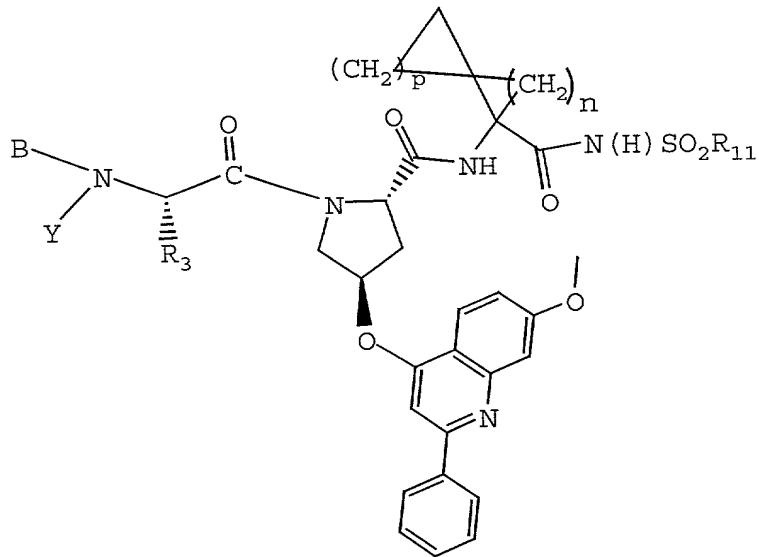
(f) R<sub>5</sub> is H or C<sub>1-6</sub> alkyl;

or a pharmaceutically acceptable salt, solvate or prodrug thereof.

22. A compound of Claim 21 wherein  $R_{11}$  is selected from cyclopropyl, cyclobutyl or optionally substituted phenyl.

5

23. A compound having the formula



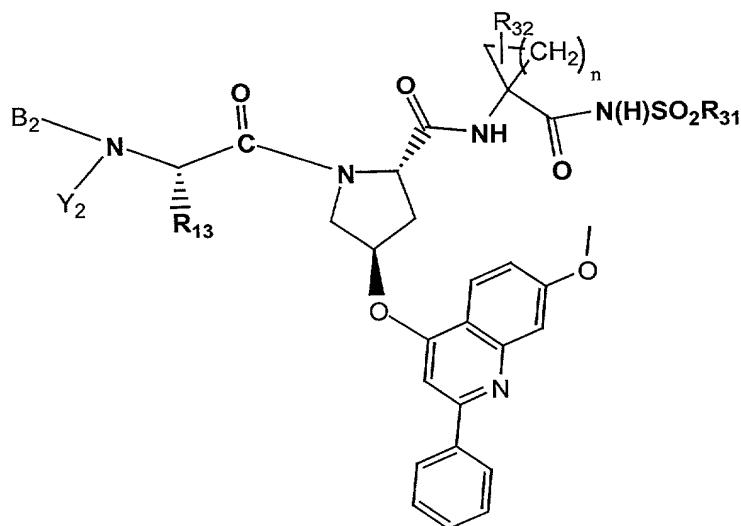
wherein:

- (a)  $R_{11}$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), naphthyl, or phenyl wherein said phenyl is optionally substituted from one to three times with halo, cyano, nitro,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, amido, or phenyl;
- (b)  $R_3$  is  $C_{1-8}$  alkyl,  $C_{3-12}$  alkenyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  (alkylcycloalkyl), wherein the cycloalkyl or alkylcycloalkyl are optionally substituted with hydroxy,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkenyl, or  $C_{1-6}$  alkoxy;
- (c)  $Y$  is H or  $C_{1-6}$  alkyl wherein said alkyl is optionally substituted with cyano or  $C_{3-7}$  cycloalkyl;
- (d)  $B$  is H,  $R_4-C(=O)-$ ,  $R_4O-C(=O)-$ ,  $R_4-N(R_5)-C(=O)-$ ,  $R_4-N(R_5)-C(=S)-$ ,  $R_4SO_2-$ , or  $R_4-N(R_5)-SO_2-$ ;
- (e)  $R_4$  is (i)  $C_{1-10}$  alkyl optionally substituted with

carboxyl,  $C_{1-6}$  alkanoyl, hydroxy,  $C_{1-6}$  alkoxy, amino  
optionally mono-or-di substituted with  $C_{1-6}$  alkyl,  
amido, or (lower alkyl) amido; (ii)  $C_{3-7}$   
cycloalkyl,  $C_{3-7}$  cycloalkoxy, or  $C_{4-10}$  alkylcyclo-  
alkyl, all optionally substituted with hydroxy,  
carboxyl, ( $C_{1-6}$  alkoxy)carbonyl, amino optionally  
mono- or disubstituted with  $C_{1-6}$  alkyl, amido, or  
(lower alkyl) amido; (iii) amino optionally mono-  
or-di-substituted with  $C_{1-6}$  alkyl; amido; or (lower  
alkyl)amido; (iv)  $C_6$  or  $C_{10}$  aryl or  $C_{7-16}$  aralkyl,  
all optionally substituted with  $C_{1-6}$  alkyl,  
hydroxy, amido, (lower alkyl) amido, or amino  
optionally mono-or-di-substituted with  $C_{1-6}$  alkyl;  
or (v) Het or (lower alkyl)-Het, both optionally  
substituted with  $C_{1-6}$  alkyl, hydroxy, amido, (lower  
alkyl) amido, or amino optionally mono-or-di-  
substituted with  $C_{1-6}$  alkyl;  
5 (f)  $R_5$  is H or  $C_{1-6}$  alkyl;  
10 (g) n is 1 or 2; and  
15 (h) p is 1, 2, 3, 4 or 5,  
20 or a pharmaceutically acceptable salt, solvate or  
prodrug thereof.

24. A compound of Claim 23 wherein  $R_{11}$  is selected  
25 from cyclopropyl, cyclobutyl or optionally  
substituted phenyl.

25. A compound of having the formula



wherein:

- (a) R<sub>31</sub> is C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> (alkylcycloalkyl), all optionally substituted with hydroxy, halo, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> thioalkyl, amido, amino, (C<sub>1-6</sub> alkyl)amido, C<sub>6</sub> or C<sub>10</sub> aryl, C<sub>7-16</sub> aralkyl, Het, or (C<sub>1-6</sub> alkyl)-Het, said aryl, arylalkyl or Het being optionally substituted with halo, alkyl or lower alkyl Het;
- 10 (b) n is 1 or 2;
- (c) R<sub>32</sub> is H, C<sub>1-6</sub> alkyl, C<sub>1-3</sub> alkoxy, C<sub>3-7</sub> cycloalkyl, C<sub>2-6</sub> alkenyl, or C<sub>2-6</sub> alkynyl, all optionally substituted with halogen;
- (d) R<sub>13</sub> is C<sub>1-8</sub> alkyl, C<sub>3-12</sub> alkenyl, C<sub>3-C7</sub> cycloalkyl, C<sub>4-13</sub> cycloalkenyl, or C<sub>4-C10</sub> (alkylcycloalkyl), all optionally substituted with hydroxy, C<sub>1-C6</sub> alkoxy, C<sub>1-C6</sub> thioalkyl, amino, amido, (loweralkyl) amido, C<sub>6</sub> or C<sub>10</sub> aryl, or C<sub>7-C16</sub> aralkyl;
- 15 (e) Y<sub>2</sub> is H or C<sub>1-C6</sub> alkyl;
- (f) B<sub>2</sub> is H, R<sub>14</sub>- (C=O) - ; R<sub>14</sub>O (C=O) - , R<sub>14</sub>-N (R<sub>15</sub>) -C (=O) - ; R<sub>14</sub>-N (R<sub>15</sub>) -C (=S) - ; R<sub>14</sub>SO<sub>2</sub> - , or R<sub>14</sub>-N (R<sub>15</sub>) -SO<sub>2</sub> - ;
- 20 (g) R<sub>14</sub> is (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino

optionally mono-or-di substituted with C<sub>1-6</sub> alkyl,  
amido, or (lower alkyl) amido; (ii) C<sub>3-7</sub>  
cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub>  
alkylcycloalkyl, all optionally substituted with  
5 hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino  
optionally mono- or disubstituted with C<sub>1-6</sub> alkyl,  
amido, or (lower alkyl) amido; (iii) amino  
optionally mono-or-di-substituted with C<sub>1-6</sub> alkyl;  
amido; or (lower alkyl)amido; (iv) C<sub>6</sub> or C<sub>10</sub> aryl  
10 or C<sub>7-16</sub> aralkyl, all optionally substituted with  
C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl) amido, or  
amino optionally mono-or-di-substituted with C<sub>1-6</sub>  
alkyl; or (v) Het or (lower alkyl)-Het, both  
optionally substituted with C<sub>1-6</sub> alkyl, hydroxy,  
15 amido, (lower alkyl) amido, or amino optionally  
mono-or-di-substituted with C<sub>1-6</sub> alkyl; and  
(h) R<sub>15</sub> is H or C<sub>1-6</sub> alkyl.

26. A salt, solvate or prodrugs of a compound of  
20 Claim 25.

27. A compound of Claim 25 wherein  
R<sub>31</sub> is C<sub>3-6</sub> cycloalkyl, C<sub>4-10</sub> alkylcycloalkyl,  
C<sub>1-8</sub> alkyl CF<sub>3</sub> or CCl<sub>3</sub>.

25

28. A compound of Claim 25 wherein B<sub>2</sub> is an acyl  
derivative of formula R<sub>14</sub>-O-(C=O)- or a carboxyl  
of formula R<sub>14</sub>-O-(C=O)-.

30 29. A compound of claim 25 wherein R<sub>2</sub> is H, C<sub>1-3</sub> alkyl,  
C<sub>3-5</sub> cycloalkyl, or C<sub>2-4</sub> alkenyl, all optionally  
substituted with halo.

30. A compound of claim 25 wherein R<sub>31</sub> is C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> thioalkyl, acetamido or C<sub>6</sub> or C<sub>10</sub> aryl.

5

31. A compound of claim 25 wherein B is (CH<sub>3</sub>)<sub>3</sub>-O-CO-; Y is H; n is 1; R<sub>31</sub> is methyl, cyclopropyl or -CF<sub>3</sub>; R<sub>32</sub> is ethyl or vinyl; and R<sub>13</sub> is t-butyl, i-propyl, s-butyl, i-butyl or cyclohexylmethyl.

32. A pharmaceutical composition, comprising  
15 (a) a compound of Claim 1-31, or a pharmaceutically acceptable salt, solvate or prodrug thereof; and  
(b) a pharmaceutically acceptable carrier.

20 33. A method of inhibiting HCV NS3 protease which comprises administering to a mammal in need of such treatment a therapeutically effective amount a compound of Claim 1-31, or a pharmaceutically acceptable salt, solvate or prodrug thereof.

25

34. A method of for treating an HCV infection, in a mammal in need thereof, comprising the administration to said mammal of a therapeutically effective amount a compound of 30 Claim 1-31, or a pharmaceutically acceptable salt, solvate or prodrug thereof.